



**PATENT ABSTRACTS OF  
JAPAN**

**06-244112**

(11) Publication number :

(43) Date of publication of application : **02.09.1994**

(51) Int.Cl.

**H01L 21/205**

(21) Application number : **05-050026**

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(22) Date of filing : **16.02.1993**

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**(54) METHOD OF GROWING COMPOUND SEMICONDUCTOR CRYSTAL**

**(57) Abstract:**

**PURPOSE:** To provide compound semiconductor crystal on an Si substrate wherein the surface shape (homology) can be improved, by partly using raw material wherein methyl groups are bonded to group III atoms, and growing second single crystal III-V compound semiconductor on a polished surface by a metal organic chemical vapor deposition method.

**CONSTITUTION:** An Si substrate 31 is heated at about 500°C, and a low temperature buffer GaAs layer is formed on an Si slant substrate 31 by an metal organic chemical vapor deposition method(MOCVD).

The growth of the GaAs layer is once interrupted, and the temperature of the Si slant substrate 31 is raised up to about 600°C which is the ordinary growth temperature. After that, a second GaAs buffer layer 35 is epitaxially grown on the first GaAs buffer layer 34 by an MOCVD method. While aqueous solution of soda hypochlorite is spread on the surface of the second GaAs buffer layer 35, the surface is buffed. Thereby a flat polished surface 36 is formed.

**LEGAL STATUS**

[Date of request for examination] **16.04.1999**

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] **3093904**

[Date of registration] **28.07.2000**

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]